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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Seok Kyu PARK

Customer No.: 30827

Application No.: 10/516,604

Confirmation No.: 7108

Filed: December 3, 2004

Art Unit: 1714

For: METHOD FOR CLEANING TUB OF  
WASHING MACHINE

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Examiner: GOLIGHTLY, ERIC W.

**MS Appeal Brief - Patents**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPELLANT'S REPLY BRIEF**

Sir:

In response to the Examiner's Answer mailed on September 2, 2010, the Appellant hereby submits this Reply Brief.

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**II. STATEMENT OF ADDITIONAL FACTS**

NONE

### **III. ARGUMENTS**

- A. The Examiner improperly rejected claims 1-5, 7-35 and 41 under 35 U.S.C. § 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examiner's Answer at p. 4.**

The Examiner's assertion that the limitations "removing contaminants stuck to a surface of the tub," "soaking the contaminants ... after removing contaminants ... is completed" and "separating soaked contaminants from the surface of the tub" render the claims indefinite. The test for definiteness is not whether there is more suitable language available, but whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986); *see also* M.P.E.P. §2173.02. Furthermore, in reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider the totality of all the limitations and their interaction with each other to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph. *See* M.P.E.P. §2173.02.

In this case, the claim language does particularly point out and distinctly claim the subject matter which applicant regards as the claimed invention when the claim language is considered in its totality in light of the specification because one of ordinary skill can understand what is claimed. In the instant application, the specification states, for example, that one embodiment of the claimed invention of "a method for cleaning a tub of a washing machine include[s] ... removal of contaminants lightly stuck to a surface of the tub, soaking the contaminants for a predetermined time period, washing for the second time for separating soaked contaminants from the surface of the tub, and draining water from the tub." *Specification* at p. 5; lines 10-15. In other words, embodiments of the claimed invention include, among other steps, removing contaminants lightly stuck to the surface of a tub by

rotating the tub, then soaking contaminants while holding the tub stationary, and separating the soaked contaminants.

When the phrases of the claims are considered in their totality in view of the specification, it is clear that one of ordinary skill in the art would recognize that contaminants stuck to a surface of a tub are removed by rotating a tub, then contaminants are soaked and the soaked contaminants are separated. Therefore, the claim language does particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Further, the Examiner's assertion that the phrase "supplying clean water to the tub a second time" renders the claims 3-5 and 41 indefinite is improper. If the language used by the applicant satisfies the statutory requirements of 35 U.S.C. 112, second paragraph, but the Examiner merely wants the applicant to improve the clarity or precision of the language used, the claim must not be rejected under 35 U.S.C. 112, second paragraph. *See* M.P.E.P. §2173.02. Here, claims 3-5 all recites, "supplying water to a tub with rotating the tub" and "supplying clean water to the tub a second time." One of ordinary skill can understand that embodiments of the claimed method include supplying water to the tub twice. However, the Examiner contends, "it is not clear which of the earlier recited supplying steps, if any, is intended to be considered the "first time" with respect to the phrase "supplying clean water to the tub a second time." *Examiner's Answer* at p. 17. It is implicit that "supplying water to a tub with rotating the tub" refers to the first step of supplying water and "supplying clean water to the tub a second time" is a second instance. Therefore, to amend the claims to add the phrase "a first time" is merely improving the precision of the language and the claims must not be rejected under 35 U.S.C. 112, second paragraph just to improve the clarity of the language when one of ordinary skill can understand what is claimed.

Accordingly, claims 1-5, 7-35 and 41 clearly define the claimed subject matter.

- B. The rejection of claims 1-5, 8, 9, 11-18, 20-30, 32, 35, and 41 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,770,376 to Sharpe (*Sharpe*) is improper and should be reversed, as Sharpe fails to teach or suggest all the elements of claims 1-5, 8, 9, 11-18, 20-30, 32, 35, and 41.**

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. See M.P.E.P. §2143; *In re Royka*, 490 F.2d 981 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

**1. Independent Claims 1-5**

*Sharpe* does not teach or suggest each and every element recited in claims 1-5. Independent claims 1-5 are allowable over *Shape*, in that claims 1-5 similarly recite a combination of elements including, at least, “removing contaminants stuck to a surface of the tub by rotating a tub or a pulsator in the tub; soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary after removing contaminants by rotating the tube or the pulsator is completed.” Additionally, independent claims 3-5 are allowable over *Shape* in that claims 3-5 similarly recite a combination of elements including, at least, “supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed.”

The Examiner asserts that “*Sharpe* ... discloses the steps of:... rotating the tub ... energizing the main motor after the water supply is completed ..., or soaking contaminants for a predetermined time period by holding the tub and agitator stationary.” *Final Office Action Mailed February 18, 2010* at p. 4. However, *Sharpe* does not disclose or suggest performing the steps of cleaning the tub of a washing machine as claimed. First, *Sharpe*’s

alleged supplying step (col. 4; lines 31-36 and col. 5, lines 46-52) does not include “rotating the tub without introduction of laundry into the tub,” as claimed. *See Examiner’s Answer* at p. 4. Rather, *Sharpe* discloses that “the timer motor starts when the water fill is completed” and “[t]imer switch contact 1 is closed in the 20th impulse ... to energize the main motor 52 in a direction to provide agitation of the agitator 44.” *Sharpe* at col. 5; lines 31-35. Thus, during *Sharpe*’s water supply, neither the agitator nor the tub is operated. Therefore, *Sharpe* does not disclose or suggest, “supplying water to a tub with rotating the tub,” as claimed. Furthermore, *Sharpe*’s alleged soaking step (col. 5; lines 34-39) is not performed for “a predetermined time period by holding the tub and the pulsator stationary after removing contaminants,” as claimed. *See Examiner’s Answer* at p. 4. Instead, *Sharpe* discloses that agitation is provided through the 21<sup>st</sup> timer impulse thereafter, a time pause occurs to reverse the motor and reenergize it to rotate the spin basket 28. Then, during the 23<sup>rd</sup> timer impulse, a brief spray of fresh clean water occurs. Thereafter, while the agitator is distributing the sanitizing solution, the recirculation pump 70 operates to withdraw the sanitizing solution from water container 26 and returns the sanitizing solution to the tub assembly through a conduit 34. *Sharpe* at col. 5; lines 42-66. Thus, *Sharpe* does not disclose or suggest, “soaking the contaminants for a predetermined time period by holding the tub and the pulsator stationary,” as claimed.

Additionally, independent claims 3-5 further recite, “supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed.” The Examiner contends, “*Sharpe* discloses spraying water to the tub, which reads on supplying water to the tub for a second time and rinsing the surface of the tub ... and draining water from the tub for a second time.” *Final Office Action* at page 6. As discussed above, *Sharpe* discloses that “[d]uring the 23rd timer impulse, the timer



switch contact 14 is closed to initiate a brief ... spray of fresh clean water” and “that the clean flushing water which is sprayed during the 23rd timer impulse is removed to drain during the spin portion of the ‘SANITIZE’ cycle.” *Sharpe* at col. 5; lines 47-49 and col. 6; lines 6-8. Further, *Sharpe* discloses, “[t]he drain pump 76 operates to remove sanitizing solution to drain so long as the ‘SANITIZE’ cycle is in spin.” *Sharpe* at col. 6; lines 6-8. Therefore, *Sharpe*’s alleged supplying water for the second time step is performed during the draining water step for the first time. Accordingly, *Sharpe* does not teach or suggest “supplying clean water to the tub a second time after draining water from the tub for the first time and supplying water to the surface of the tub are completed,” as claimed.

Moreover, the Examiner admits that “*Sharpe* is silent regarding: no laundry is to be introduce into the tub, permeating water into the contaminants ...,” however, the Examiner insists that “selection of the order of performing steps is prima facie obvious in the absence of new or unexpected results.” *Final Office Action* at pages 4-5. Appellant respectfully disagrees. Appellant notes that existing methods “for clearing a tub of a washing machine has a low tub cleaning efficiency, not only to require an excessively long time period for the tub cleaning, but also to consume much power.” *Specification*, page 4, lines 22-24. Figures 4 and 5 show a comparison of “a case [where] the tub cleaning is performed according to a tub cleaning method [of] the present invention [which] can reduce a time period, and power consumption required for the tub cleaning [and] a case [where] the tub cleaning is performed according to the related art tub cleaning method even if the same tub cleaning effects are provided.” *Specification*, page 20, line 25 to page 21, line 4. Reduced washing time and power consumption are new and unexpected results. Thus, it would not have been obvious for one of ordinary skill in the art to select the order of the performing steps. However, the Examiner appears to be ignoring these secondary consideration as evidenced by his assertion that “appellants believe their method to be superior to some generic prior art method, there is

no basis for concluding that the inference means superiority over the *Sharpe* method.” *Examiner’s Answer* at p. 18. Regardless of the superiority over the *Sharpe* method, the “evidence of unexpected result must be weighted against evidence supporting *prima facie* obviousness in making a final determination of obviousness of the claimed invention,” and secondary consideration must be taken into account whenever present. M.P.E.P. §716.02(c) and M.P.E.P. §2145. Thus, the Examiner must consider the above secondary consideration in Appellant’s rebuttal.

Accordingly, for at least the foregoing reasons, Appellant respectfully requests the evidence of secondary considerations be considered and reversal of the rejection of claims 1-5 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe*.

**2. Dependent Claims 8, 9, 11-18, 20-30, 32, 35, and 41**

Claims 8, 9, 11-18, 20-30, 32, 35, and 41 variously depend from independent claims 1-5, and are also allowable over *Sharpe* for at least the same reasons as claims 1-5.

Furthermore, the Examiner admits, “*Sharpe* does not explicitly teach” the elements of claims 9, 12, 16, 17, 21-28, 30, 32, 35, and 41. The Examiner then states it would have been obvious to one of ordinary skill in the art any way. For example, claim 23 recites, “the step of displaying an accumulated number of washing courses performed by the washing machine after of tub cleaning, and a target number of washing courses to be performed before the next tub cleaning on a display of the washing machine.” The Examiner admits, “*Sharpe* does not explicitly teach displaying a target number of the washing courses to be performed by the washing machine before the next tub cleaning on display of the washing machine.” *Office Action Mailed* at page 10. The Examiner then states “it would have been obvious to one of ordinary skill in the art at the time of the invention to display the target number when using the method as per the *Sharpe* teaching in order to order to enhance an operator’s ability to

ensure that the cleanings occur in a timely manner.” *Id.* Here, the Examiner has failed to provide articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See, KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Accordingly, Appellant respectfully request reversal of the rejection of claims 8, 9, 11-18, 20-30, 32, 35, and 41 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe*.

**C. The rejection of claims 7, 10, 31, 33, and 34 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of KR 20010093969 to Kim (*Kim*) is improper and should be reversed, as the combined teaching of *Sharpe* and *Kim* fails to teach or suggest all the elements of claims 7, 10, 31, 33, and 34.**

Claims 7, 10, 31, 33, and 34 all depends from claim 1, and incorporate all the elements of claim 1. As discussed, *Sharpe* fails to teach or suggest at least the above-recited elements of claim 1. As set forth in the Office Action, *Kim* is used to disclose “a washing machine tub cleaning method wherein a water current is made to rise along the tub wall due to a rotating pulsator.” *Final Office Action* at page 13. *Kim* is also silent with respect to the above-recited elements of claim 1. Therefore, *Kim* fails to cure the deficiencies of *Sharpe* with respect to independent claim 1. Claim 1 and its dependent claims 7, 10, 31, 33, and 34 are allowable over the combined teaching of *Sharpe* and *Kim*.

Accordingly, Appellant respectfully request reversals of the rejection of claims 7, 10, 31, 33, and 34 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* and *Kim*.

**D. The rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* in view of JP 2002346288 to Iwai et al. (*Iwai*) is improper and should be reversed, as the combined teaching of *Sharpe* and *Iwai* fails to teach or suggest all the elements of claim 19.**

Claim 19 indirectly depends from claim 1, and incorporates all the elements of claim 1. As discussed, *Sharpe* fails to teach or suggest at least the above-recited elements of claim 1. As set forth in the Office Action, *Iwai* is used to disclose “a method of using a washing

machine including a housing unit for use with a sterilizing agent which includes a hydantoin halide compound for releasing a hypohalogenic acid by water contact.” *Final Office Action* at pages 13-14. Therefore, *Iwai* fails to cure the deficiencies of *Sharpe* with respect to independent claim 1. *Iwai* is also silent with respect to the above-recited elements of claim 1. Claim 1 and its dependent claim 19 are allowable over the combined teaching of *Sharpe* and *Iwai*.

Accordingly, Appellant respectfully request reversals of the rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Sharpe* and *Iwai*.

#### IV. CONCLUSION

For reasons as discussed above, claims 1-5, 7-35 and 41 are improperly rejected under 35 U.S.C. § 112, second paragraph, claims 1-5, 8-9, 11-18, 20-30, 32, 35 and 41 are improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sharpe*, claims 17, 10, 31, 33 and 34 are improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sharpe* in view of *Kim* and claim 19 is improperly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Sharpe* in view of *Iwai*.

The Honorable Board is requested to reverse the rejections set forth in the Final Office Action of February 18, 2010, and direct the Examiner to pass this application to issue.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Dated: October 29, 2010

Respectfully submitted,

/Yong S. Choi/

**Yong S. Choi**

Registration No.: 43,324

McKENNA LONG & ALDRIDGE LLP

1900 K Street, N.W.

Washington, DC 20006

(202) 496-7500

Attorneys for Applicant